

OWEN BEELDERS, Ph.D.

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PROFESSIONAL EXPERIENCE

TIAA, New York, New York

Sr. Dir, Quantitative Methods – Risk Management,

September 2014 – present

- **Management Responsibilities:** Hired a team of three in India to provide quantitative and programming support to the team in the US. Integrated the team into the workflow of the team in the US and extended the responsibility of the team to include the preparation of model risk management documentation. I meet and collaborate with the team in India on a daily basis; this includes meetings with the managers and the associates who do the work. I have also managed five rotational analysts on their six-month rotations over the past three years.
- **Operational Risk Model:** Developed methodology, ran model and prepared model validation documents for five years. In 2023 I transitioned model estimation to associates in India. In 2024 we revamped the model using ORX Banking data for losses and frequency of events. Used a novel approach for the loss distributions: a kernel density estimator for the body of the loss distribution and the generalized Pareto distribution for the tail.
- **Emerging Risk Working Group:** Leader of the societal risk sleeve that reviews societal changes that may impact the firm in the next 5 to 20 years. These include the impact of demographic changes, the closure of colleges, cryptocurrencies, etc. on TIAA's business.
- **Annual Financial Planning:** Run challenger models to produce loss projections for a qualitative and quantitative review of the first line loss projections.
- **Strategic Asset Allocation Project:** Developed methodology and managed two quantitative analysts to build models for the annual returns of private equity, farmland, timberland, energy and infrastructure for a 30-year horizon ALM model. Prepared business requirements, model validation documents and collaborated with the actuarial department on the implementation.
- **Correlation Matrix for Asset Allocation and PCaR:** Used the covariance regression method of Hoff and Niu (2012) to estimate a correlation matrix for the annual asset allocation exercise of the General Account and for calculating the Potential Capital at Risk (PCaR) for the past seven years.
- **OTTI Model:** Collaborated with the accounting department and a team of quant modelers to formulate and estimate models for predicting OTTI.

AllianceBernstein, New York, New York

VP, Fixed Income Quantitative Analysis,

May 2007 – June 2014

- **Agency prepay and default model:** Built pool level and loan level default models for FHLMC STACR and FNMA CAS deals. The model is used to evaluate risk-sharing deals, Jumbo collateral and determine the underwriting characteristics for originating whole loans.
- **Loan Level Delinquency Roll Rate models.** Estimated in SAS using LoanPerformance data; CDR and CDR curves fed into Intex via Polypaths. Presented to CEO and used for distressed asset fund and PPIP fund. Collateral types modeled: fixed- and floating-rate subprime loans, Alt-A Negam, fixed and floating rate models and jumbo fixed and floating rate models.
- **Interim Head of ABS/MBS Research** (June 2010 – March 2011) – duties included monthly MBS research review, analysis of basis model, coupon and collateral selection; completion of RFPs; meeting with clients; prepay speeds and model reviews.
- Managing projects for rotational associates and interns, screening interviews for team, presentations on model building to team members.

CITIGROUP, New York, New York

VP, Counterparty Credit Risk

August 2006 – May 2007

- Completed a capital model for derivative product company with a termination structure. Sources of risk are credit, commodities, foreign exchange and interest rates. Met with rating agencies to discuss details of model.

VP, Asset Backed Research**March 2004 – August 2006**

- **Built prepayment models for Alt-A and Subprime MBS:** Developed prepayment models for the YieldBook, interacted with clients, traders and sales force, prepared documentation and presented at the CPRCDR conference. Used SAS to analyze large issuer-specific loan level datasets to write research articles on default and loss rates, collateral characteristics and prepayment speeds.
- **Articles in Citigroup's Fixed Income Weekly, Bond Market Round-up:**
 - "The New alt-A Delinquency Roll Rate Model," March 31, 2006.
 - "How Much More will Alt-A Ramps Slow Down in 2006?" April 7, 2006.
 - "Sensitivity of Losses to alt-A Collateral Characteristics," May 5, 2006.

CHUBB FINANCIAL SOLUTIONS, LLC, / QUANTA U.S. HOLDINGS, Inc, New York, New York
Assistant Vice President, Structured Products **August 2002 – February 2004**

EMORY UNIVERSITY, Atlanta, Georgia**August 1997 – July 2002.****Assistant Professor, tenure track**

- **Undergraduate and Graduate Teaching:** Econometrics, Applied Econometrics, Time Series Analysis, Financial Economics, Money and Banking.
- **Consulting:** Colonial Pipelines, Alpharetta, Georgia: Valued real options on the pipeline that stretches from Pasadena, Texas, to Linden, New Jersey.

EDUCATION

- Ph.D., Economics (Econometrics and Finance), University of Rochester, NY.
- M.A., Economics, University of Cape Town.
- B.Sc. (Hons), Statistics, University of Cape Town.
- B.Sc., Statistics and Economics, University of Cape Town.

RESEARCH PUBLICATIONS

- Beelders, O. and Colarossi, D. (2004) "Modeling Mortality Risk with Extreme Value Theory," *GARP Risk Review*, Issue 19, July/August.
- Beelders, O. (2003) "An Investigation of the Unconditional Distribution of South African Stock Index Returns" *Applied Financial Economics*, 13, 9, 623-633.
- Beelders, O. (2001) "A Correlation Curve Analysis of the Price-Volume Relationship in Stock Prices," *Conference Proceedings of the Business and Economics Statistics Section of the American Statistical Association*.
- Beelders, O. (1993) "The Optimal Extraction of Gold from Surface Dumps", *Journal for Studies in Economics and Econometrics*, 17, 2, 7-20.
- Standish, B. and O. Beelders (1991) "Do South African Fiscal Deficits Matter?" *Journal for Studies in Economics and Econometrics*, 15, 2, 1-18.

Personal Activities:**President of 100 Ocean Pkwy Tenants Association**

- Worked with the management company to revamp the annual maintenance of the co-op so that all local law (LL) requirements are being met.
- Set up the first capital project plan for the co-op to revamp the infrastructure of the building. Met with engineers and contractors to review and select a bid for the \$2M project for façade restoration and roof replacement. The façade restoration is almost done; the roof will be replaced in 2025.
- Initiated meetings with service providers to prepare a plan for meeting the intermediate five-year carbon emission goals of LL97 prior to the 2050 deadline.
- Initiated an RFP to hire a new accounting firm and successfully hired a new firm.
- Prepared an SOP for managing the co-op and clearly defined the role of the treasurer and secretary so that owners can transfer knowledge when rotating on and off the board.